

appended claims.

WHAT IS CLAIMED IS:

1 1. A method of improving the uniformity of etching of a film
2 on an article, the method comprising the steps of:

3 immersing the article containing the film into a tank of
4 etchant;

5 rotating the article while in the etchant for a predetermined
6 amount of time so as to cause improved uniformity of etching
7 of the film compared to etching without rotating the article;
8 and

9 removing the article from the tank of etchant.

1 2. The method of claim 1 wherein the step of rotating
2 comprises sequentially rotating the article.

1 3. The method of claim 1 wherein the step of sequentially

rotating comprises rotating the article a predetermined amount but less than a complete rotation, etching the article a predetermined amount of time, and repeating the steps of rotating and etching for a predetermined amount of time.

4. The method of claim 1 wherein the step of rotating comprises continuously rotating the article a predetermined amount of time.

5. The method of claim 1 wherein in the step of rotating, the article is rotated at a speed of 1 to 5 revolutions per minute.

6. The method of claim 1 wherein the film is a metallic film.

7. The method of claim 1 wherein the film is a nonmetallic film.

8. A method of improving the uniformity of etching of a film on a semiconductor wafer, the method comprising the steps of:

3 immersing the semiconductor wafer containing the film into a
4 tank of etchant;

5 rotating the semiconductor wafer while in the etchant for a
6 predetermined amount of time; and

7 removing the semiconductor wafer from the tank of etchant.

1 9. The method of claim 8 wherein the step of rotating
2 comprises sequentially rotating the semiconductor wafer.

3 10. The method of claim 8 wherein the step of sequentially
4 rotating comprises rotating the semiconductor wafer a
5 predetermined amount but less than a complete rotation,
6 etching the semiconductor wafer a predetermined amount of
time, and repeating the steps of rotating and etching for a
predetermined amount of time.

1 11. The method of claim 8 wherein the step of rotating
2 comprises continuously rotating the semiconductor wafer a
3 predetermined amount of time.

1 12. The method of claim 8 wherein in the step of rotating,
2 the semiconductor wafer is rotated at a speed of 1 to 5
3 revolutions per minute.

1 13. The method of claim 8 wherein the semiconductor wafer
2 further comprises a plurality of solder bumps on the film.

14. The method of claim 8 wherein the film is a metallic
film.

15. The method of claim 8 wherein the film is a nonmetallic
film.